

Work Order ID 149816***149816***

Page 1

Wednesday, August 03, 2016 1:26:30 PM

Item ID: D2894-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: 2.75 Support

Start Date: 7/19/2016 Start Qty: 5.00 ***5***

Cust Item ID:

Required Date: 8/3/2016 Req'd Qty: 5.00 ***5***

Customer:

Reference:

Approvals: Process Plan: DAS 21 Date: AUG 03 2016 Tooling: _____ Date: _____
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2894	E

100

0.03

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.47

HAAS CNC vertical machine #1

Machine as per Folio FA253
Tumble & Deburr10 0 SL 16-9-30

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

10 0 SL 16-9-30

120

0.00

120

QC8- Inspect parts - second check

QC

Memo

0.02

Quality Control

10 0 SL 16-9-30
12/10/03DAS
14
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

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149816

Page 2

Item ID: D2894-1

Accept

N900040100

Setup Start

NS1

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Item Name: 2.75 Support

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Cust Item ID:

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5

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>Lee</u>	0.00				<u>10x</u>	<u>DAS 26 9-89</u>		<u>OCT 04 2016</u>
130									
Packaging	Memo	0.01							
Packaging	LOCATION : LG051								
140	QC21 - Final Inspection - Work Order Release	0.00							<u>OCT 05 2016</u>
140						<u>DAS 21 9-89</u>			
QC	Memo	0.08							
Quality Control						<u>U.S. 10/10/05</u>			
						<u>DAS 21 9-89</u>			<u>OCT 05 2016</u>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

Picklist Print

Wednesday, August 03, 2016 1:26:30 PM

Work Order ID: 149816

149816

Parent Item: D2894-1

D2894-1

Parent Item Name: 2.75 Support

Start Date: 7/19/2016

Required Date: 8/3/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP: B02.11.26Added mask holeKJ
IPP Rev:C ECN 993 07-11-07 DD verified by:EC
IPP D 08.03.19 Re-format EC verified by DD IPP REV:E
11.10.03 ASPER REV.C DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
DSK079		Manufactured	No			100	Each	6.0000	0.5	3/5			
DSK079									**			SL16-9-29	
D2894-1 Turning Detail													
				<u>Location</u>				<u>Loc Qty</u>					
				MAT060				6					
				138974				6		5			

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

DART AEROSPACE LTD		Work Order:	148816
Description: Ø2.750 Support		Part Number:	D2894-1
Inspection Dwg: D2894	Rev: E	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	16	17	18	19	10
HAAS Section								
AA	0.454	0.474		464	464	464	462	462
AB	3.062	3.082		3.072	3.072	3.072	3.072	3.072
AC	0.053	0.073		063	063	063	063	063
AD	1.766	1.786		1.779	1.777	1.777	1.775	1.775
AE	0.020	0.040		020	020	020	020	020
AF	0.260	0.267		261	261	261	261	261
AG	0.170	0.190		185	185	185	185	185
AH	0.150	0.170		165	165	165	165	165
AI	1.970	2.030		2.000	2.003	2.003	1.998	1.998
AJ	0.240	0.260		250	250	250	250	250
AK	1.880	1.900		1.886	1.888	1.888	1.888	1.888
AL	0.500	0.505		500	500	500	500	500
AM	0.188	0.194		190	190	190	190	190
Ensure that Ø0.500" bore is perpendicular to 1.389" bore within 0.003"								
Accept/Reject				001	0015	0015	000	001

Measured by:	DL	Date:	16-9-30
Audited by:	DAS 14 9-39	Date:	16/00/03
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	
B	06.03.08	DT8708 added to dimension AM	KJ/JLM	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	08.04.22	Reformat; Dwg Rev updated	KJ/DD	
E	08.11.25	Dimensions updated per Dwg Rev. D	KJ/JLM	
F	09.05.04	Dimension AN (0.926) removed	KJ/JLM	
G	13.05.22	Dimensions updated per Dwg Rev. E	KJ	

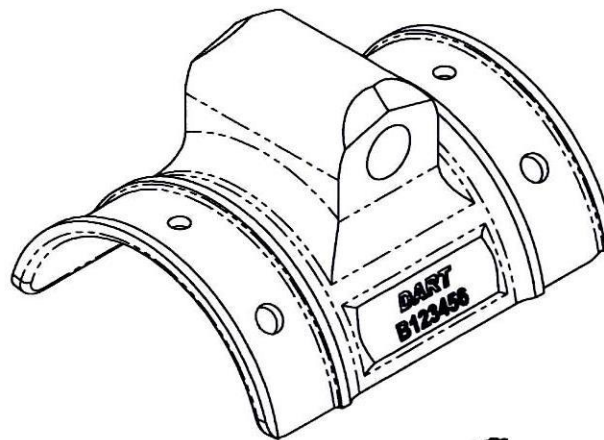
DART AEROSPACE LTD		Work Order:	148816
Description: Ø2.750 Support		Part Number:	D2894-1
Inspection Dwg: D2894	Rev: E	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
HAAS Section								
AA	0.454	0.474		.464	.464	.462	.462	.464
AB	3.062	3.082		3.072	3.072	3.072	3.072	3.072
AC	0.053	0.073		.063	.063	.063	.063	.063
AD	1.766	1.786		1.777	1.777	1.772	1.771	1.779
AE	0.020	0.040		.020	.020	.020	.020	.020
AF	0.260	0.267		.261	.261	.261	.261	.261
AG	0.170	0.190		.185	.185	.185	.185	.185
AH	0.150	0.170		.165	.165	.165	.165	.165
AI	1.970	2.030		1.998	1.997	2.001	2.001	2.000
AJ	0.240	0.260		.250	.250	.250	.250	.250
AK	1.880	1.900		1.889	1.889	1.888	1.888	1.886
AL	0.500	0.505		.500	.500	.500	.500	.500
AM	0.188	0.194		.190	.190	.190	.190	.190
Ensure that Ø0.500" bore is perpendicular to 1.389" bore within 0.003"								
Accept/Reject				.000	.0005	.001	.0015	.003

Measured by:	JL	Date:	16-9-29
Audited by:	DAS 14 9-30	Date:	16/10/03
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	
B	06.03.08	DT8708 added to dimension AM	KJ/JLM	
C	06.11.22	Note added to HAAS section	KJ/JLM	
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D2894-1 Ø2.750 SUPPORT

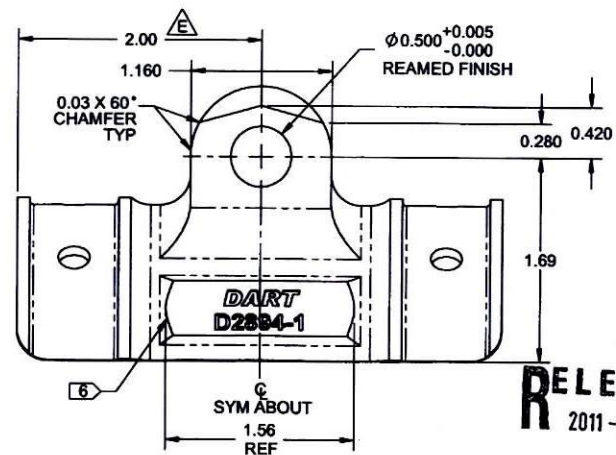
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 149816 MJS
16-08-03

RELEASED
2011-09-29
JMP

NOTES:

- 1) MATERIAL: 17-4 PH STAINLESS STEEL, H900 OR H925 CONDITION
PER ASTM A564 OR AMS 5643 OR AISI 630
MIN UTS = 170 KSI (38 HRC)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
- 6) 0.50" WIDE x 1.56" LONG x 0.005" MIN HEIGHT FLAT,
WITH R0.25 RADIUS OF TRANSITION IN THIS AREA
IDENTIFY WITH DART LOGO AND PART NUMBER ON ONE
SIDE AND DART LOGO AND BATCH NUMBER ON OPPOSITE
SIDE USING 0.010-0.020 DEEP LETTERING
- 7) WEIGHT: 0.98 lbs

E	REMOVE PRIMER & UPDATE MATL SPEC (ZN A8-1), 2.00 WAS 2.000 (C3-2), 4.00 WAS 4.000 (C8-2), REF. CAR 11-51	CP	11.09.07
D	DRAWING REFORMATTED. POWDER COAT FINISH REMOVED. CHAMFERS ADDED TO TOP OF PART TO CLEAR ROCKER BEAM, PER BELL TECH BULLETIN 407-08-84. B5-2 0.261 HOLE WAS 0.267. B2-2 REAM FINISH INSTRUCTION ADDED.	AJS	08.11.06
C	ADD MASKING AND PRIME ONLY NOTES, REFORMATTED DRAWING.	DC	07.07.04
B	AS MANUFACTURED	CP	02.07.17
A	NEW ISSUE	CP	02.04.02
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AS		
CHECKED	AS	DRAWING NO.	REV. E
MFG. APPR.		D2894	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		Ø2.750 SUPPORT	NTS
DATE	11.09.07	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



D2894-1 Ø2.750 SUPPORT

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D2894** REV. E
SHEET 2 OF 2

TITLE	SCALE
Ø2.750 SUPPORT	NTS

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